

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

SK INNOVATION CO., LTD.,

Plaintiff,

v.

LG CHEM, LTD AND LG CHEM
MICHIGAN INC.

Defendants.

C.A. No. _____

DEMAND FOR JURY TRIAL

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff SK Innovation Co., Ltd. (“SK Innovation”) files this Complaint for patent infringement under 35 U.S.C. § 271 against LG Chem, Ltd. and LG Chem Michigan Inc. (each a “Defendant” and collectively “LG Chem”), and alleges as follows:

OVERVIEW

1. This is a civil action for infringement of U.S. Patent No. 10,121,994 (“the ’994 Patent”) under the patent laws of the United States, 35 U.S.C. §§ 1, *et seq.*
2. SK Innovation was founded in 1962 in South Korea, known then as the Korea Oil Corporation. SK Innovation was Korea’s first and is currently Korea’s largest energy-chemical company. SK Innovation and its subsidiaries (including SK Battery America, Inc.) have over 6,500 employees world-wide. In a sign of its confidence in the United States’ burgeoning electric vehicle market, in 2018, SK Innovation announced that it was planning to spend over \$1 billion to build its first electric vehicle battery plant in the United States, with an annual capacity of 9.8 gigawatt-hours of batteries. The battery plant has been under construction in Georgia since the groundbreaking ceremony in March 2019.

3. Since its founding over 50 years ago, SK Innovation has led Korea's energy industry through ceaseless innovation and technology development and is recognized as a global leader in new energy technologies, in particular for electric vehicle ("EV") batteries. SK Innovation was the first company to successfully apply high energy density ternary materials to lithium-ion batteries for mass production in the EV battery industry. Based on its superior technological capabilities, SK Innovation has worked with major global automakers since 2010 to provide EV batteries for the global market. For example, SK Innovation was selected by Hyundai to provide batteries for its BlueOn, Korea's first electric vehicle, and for the KIA Ray. Mercedes-AMG, Daimler-AG's high-performance automobile division, selected SK Innovation to supply batteries for the SLS AMG E-cell vehicle, Mercedes-AMG's first electric car.

4. SK Innovation is a leading researcher and developer across the entire value chain for mid/large-sized battery production, ranging from electrodes and separators to battery cells, battery modules and battery packs. SK Innovation's battery products are used throughout the world in electric vehicles (EVs), plug-in hybrid electric vehicles (PHEVs), hybrid vehicles (HEVs), universal power supplies (UPS), renewable energy projects, and smart grids.

5. SK Innovation and its subsidiaries currently have over 1,000 U.S. patents and patent applications covering SK Innovation's various business areas. A part of SK Innovation's patent portfolio relates to chemical electrical technologies, and in particular the lithium-ion battery technology that is the subject of this Complaint.

PARTIES

6. Plaintiff SK Innovation is a corporation organized and existing under the laws of South Korea, and maintains its principal place of business at 26 Jong-ro, Jongno-gu, Seoul 03188, South Korea.

7. On information and belief, Defendant LG Chem, Ltd. is a South Korean corporation with its principal place of business at 128 Yeoui-daero, Yeongdeungpo-gu, Seoul 07336, South Korea.

8. On information and belief, Defendant LG Chem Michigan Inc. is a corporation organized under the laws of the State of Delaware, and maintains its principal place of business at 1 LG Way, Holland, Michigan 49423. On information and belief, LG Chem Michigan Inc. is a wholly-owned subsidiary of LG Chem, Ltd. On information and belief, LG Chem Michigan Inc. may be served with process through its registered agent Corporation Service Company at 251 Little Falls Drive, Wilmington, Delaware 19808.

9. LG Chem, Ltd. and LG Chem Michigan Inc. are referred to collectively as “LG Chem.”

JURISDICTION AND VENUE

10. This Court has exclusive subject matter jurisdiction over this case under 28 U.S.C. §§ 1331 and 1338.

11. Venue is proper in this Court under 28 U.S.C. §§ 1391 and 1400(b). Defendant LG Chem, Ltd. is a foreign entity, and thus, venue is proper in this judicial district. On information and belief, Defendant LG Chem Michigan Inc. resides in this judicial district. On information and belief, all of the Defendants have committed acts of infringement in this judicial district, and have purposefully transacted business involving the accused products in the United States and this judicial district.

12. This Court has personal jurisdiction over the Defendants because (1) SK Innovation’s claims arise in whole or in part from Defendants’ conduct in the State of Delaware; (2) LG Chem, Ltd. has sought the protection and benefit from the laws of the State of Delaware and regularly conducts business in the State of Delaware by incorporating subsidiaries, including

LG Chem Michigan Inc., in the State of Delaware; (3) All of the Defendants regularly conduct business throughout the United States, including the State of Delaware, and contract to supply services or things in Delaware; (4) All of the Defendants have contacts purposefully directed at the United States and the State of Delaware and have continuous and systematic contacts with the United States and the State of Delaware; (5) All of the Defendants have placed infringing products into the stream of commerce through an established distribution channel with the expectation or knowledge that they will be purchased by consumers in the United States and the State of Delaware; and (6) All of the Defendants have caused tortious injury in the State of Delaware.

13. LG Chem, Ltd. maintains a United States version of its website at <https://www.lgchem.com/us/main>. On this website, LG Chem, Ltd. provides information regarding its activities and products, including LG Chem, Ltd.'s Automotive Batteries, which include the infringing secondary batteries and systems. On information and belief, LG Chem, Ltd.'s website is directed to marketing, offering for sale, and sales of its products and services in the United States and in the State of Delaware.

14. Defendant LG Chem, Ltd. has also derived benefits from the laws of the United States. For example, Defendant LG Chem, Ltd. has filed litigations in the United States, including based on claims for patent infringement. On information and belief, Defendant LG Chem, Ltd. derives substantial revenues from their regularly conducted business activities throughout the United States and the State of Delaware. On information and belief, Defendant LG Chem, Ltd. receives substantial revenue from their activities and the activities of their U.S. subsidiaries in the United States. On information and belief, Defendant LG Chem, Ltd. is in

regular contact with their subsidiaries and affiliates in the United States and direct communication into the United States.

THE ASSERTED PATENT

15. On November 6, 2018, the '994 Patent was duly and legally issued for an invention titled "Secondary Battery and Method for Manufacturing the Same." The '994 Patent claims priority to Korean Patent Application 10-2015-0091847, filed June 29, 2015. SK Innovation owns all rights to the '994 Patent necessary to bring this action, including the exclusive right to recover for past infringement. A true and correct copy of the '994 Patent is attached as Exhibit 1.

16. The '994 Patent generally relates to a secondary battery device, which may serve as the power source for EVs, HEVs, and PHEVs. The inventive design of the secondary battery disclosed in the '994 Patent solves problems associated with the thickness and energy density of secondary batteries. An embodiment of the '994 Patent includes an exterior material that includes, among other things, a pouch film and a sealing portion formed at an outer side of the pouch film. In this embodiment of the secondary battery, an electrode assembly may be housed by two forming portions within the pouch film. In this embodiment, the secondary battery may be formed by placing one side of the electrode assembly within one forming portion, and then wrapping the other side of the electrode assembly with the other forming portion. In this embodiment, a predetermined space interval T may be formed between the pair of forming portions. In this embodiment, the thickness of the space, in which the electrode assembly is received, may be increased by as much as the predetermined interval T . The maximum thickness of the electrode assembly in this embodiment is $T+2f$, where f is the depth of each of the forming portions.

GENERAL ALLEGATIONS

17. The products that infringe one or more claims of the '994 Patent (the "Accused Products") include, but are not limited to, secondary battery cells that are made by LG Chem.

18. On information and belief, LG Chem has and continues to at least indirectly infringe one or more claims of the '994 Patent in violation of 35 U.S.C. § 271 (b).

19. On information and belief, LG Chem may have directly infringed and/or contributed to the infringement of, and may continue to infringe and/or contribute to the infringement of, one or more claims of the '994 Patent in violation of 35 U.S.C. § 271 (a) and (c) at least based on its activities in Michigan, for which SK Innovation reserves the right to assert claims of direct and/or contributory infringement.

20. Defendants are knowledgeable about the '994 Patent and infringing acts at least as of the date on which they are properly served with this Complaint.

21. Defendants' acts of infringement have caused damage to SK Innovation. SK Innovation is entitled to recover from Defendants the past damages sustained by SK Innovation as a result of Defendants' wrongful acts in an amount subject to proof at trial. SK Innovation is also entitled to recover from Defendants a compulsory future royalty payable on each infringing product sold by Defendants following trial or that is not captured in the damages awarded to SK Innovation.

CLAIMS FOR PATENT INFRINGEMENT

22. SK Innovation identifies below at least one exemplary claim for the '994 Patent to demonstrate infringement by exemplary products. However, the selection of exemplary claims and exemplary products should not be considered limiting, and additional infringing products and infringed claims of the '994 Patent will be disclosed in compliance with the Court's rules related to infringement contentions as discovery progresses.

COUNT I: PATENT INFRINGEMENT OF THE '994 PATENT

23. SK Innovation incorporates by reference the preceding paragraphs.

24. LG Chem at least induces third parties, including for example electric vehicle manufacturers such as Jaguar and Audi, to infringe one or more claims of the '994 Patent, including at least claim 1, either literally or under the doctrine of equivalents, by or through third parties' making, using, importing, offering for sale or selling electric vehicles containing the LG Chem Pouch Cell. On information and belief, LG Chem induces the direct infringement by automobile manufacturers by instructing, offering, or encouraging automobile manufacturers to use the infringing secondary battery cells in electrical vehicles and to import electrical vehicles into the United States. Examples of such electric vehicles include the Jaguar I-PACE and the Audi e-tron®, which include the infringing LG Chem Pouch Cell.

25. On information and belief, LG Chem may have directly infringed and/or contributed the infringement of, and may continue to infringe and/or contribute to the infringement of, one or more claims of the '994 Patent at least based on its activities in Michigan, for which SK Innovation reserves the right to assert claims of direct infringement and/or contributory infringement. *See, e.g., LG Chem, Ltd. v. SK Innovation Co., Ltd.*, 1:19-cv-00776 (D. Del. April 29, 2019), Complaint, ¶29 (“Specifically, LGCM I has research and development, testing and engineering, manufacturing, and business offices in Holland, Michigan, where it has invested hundreds of millions of dollars and employs hundreds of workers. LGCM I also has research and development, testing and engineering, manufacturing, sales and marketing, and business offices in Troy, Michigan, where it has invested many millions of dollars and employs hundreds of workers. Through its facilities in Michigan, LGC supplies millions of battery cells each year to automotive manufacturers including General Motors and Chrysler.”).

26. LG Chem is knowledgeable about the '994 Patent and infringing acts at least as of the date on which it is properly served with this Complaint.

27. LG Chem's infringing acts have been without the permission, consent, authorization, or license of SK Innovation.

28. Claim 1 of the '994 Patent is recited below:

1. A secondary battery, comprising:

an exterior material which includes a pouch film and a sealing portion formed at an outer side of the pouch film; and

an electrode assembly which includes a plurality of electrode bodies laminated with a separator interposed therebetween,

wherein a pair of forming portions are formed within the pouch film to house the electrode assembly, and

wherein the electrode assembly is packaged by the exterior material in a manner that three sides of the exterior material are sealed and one side is not sealed, and a thickness of the electrode assembly is larger than a sum of each depth of the pair of forming portions.

29. The Accused Products embody the patented invention of the '994 Patent and infringe at least claim 1 of the '994 Patent. For example, the LG Chem Pouch Cell used in the Jaguar I-PACE and the Audi e-tron® infringes at least claim 1 of the '994 Patent.

30. On information and belief, the Jaguar I-PACE, an all-electric sports utility vehicle (SUV) made in the United Kingdom and imported into the United States, contains the infringing LG Chem Pouch Cell. *See, e.g.*, <https://www.caranddriver.com/news/a19551959/preview-drive-2019-jaguar-i-pace-ev-keeps-it-simple/> ("That pack consists of 432 LG Chem lithium-ion pouch cells, assembled for Jaguar into 36 modules and a single pack by LG in Poland.").

31. On information and belief, the Audi e-tron®, an electric sports utility vehicle (SUV) made in Belgium and imported into the United States, contains the infringing LG Chem

Pouch Cell. *See, e.g.*, <https://chargedevs.com/features/audi-joins-the-class-of-2019-with-the-e-tron/> (“The e-tron’s battery pack stores 95 kWh of energy (83.6 kWh useable), and is made up of 36 modules, each containing 12 pouch-type lithium-ion cells from LG Chem.”).

32. Since around 2018, the Jaguar I-PACE has been offered for sale in the United States, including in the State of Delaware, after being imported into the United States from the United Kingdom. A Jaguar dealership in Wilmington, Delaware, for example, advertises at least two Jaguar I-PACE vehicles that are located in the Wilmington, Delaware dealership and offered for sale or lease in the United States. *See* Union Park Jaguar, *New Inventory* (last accessed Aug. 26, 2019), *available at* <http://www.unionparkjaguar.com/new-inventory/index.htm?reset=InventoryListing&make=Jaguar&model=I-PACE&search=SUV>. The VIN number for one of the vehicles is listed as “SADHC2S12K1F75684.” On information and belief, the first two characters (SA) indicate that the vehicle was assembled in the United Kingdom. *See* Union Park Jaguar, *2019 Jaguar I-Pace SE SUV* (last accessed Aug. 26, 2019), *available at* <http://www.unionparkjaguar.com/new/Jaguar/2019-Jaguar-I-PACE-2aaccf800a0e0aea45594e05186b5e94.htm>.

33. Since around 2019, the Audi e-tron® has been offered for sale in the United States, including in the State of Delaware, after being imported into the United States from Belgium. For example, an Audi dealership in Wilmington, Delaware, advertises that it has Audi e-tron® in stock for sale. *See* Audi Wilmington, *e-tron* (last accessed Aug. 26, 2019), *available at* <https://www.audiwilmingtonde.com/audi-etron.htm>.

34. As shown below, LG Chem’s Pouch Cell is a secondary battery that contains an exterior material which includes a pouch film and a sealing portion formed at an outer side of the pouch film:

LG Chem's Pouch Cell in the Jaguar I-PACE:

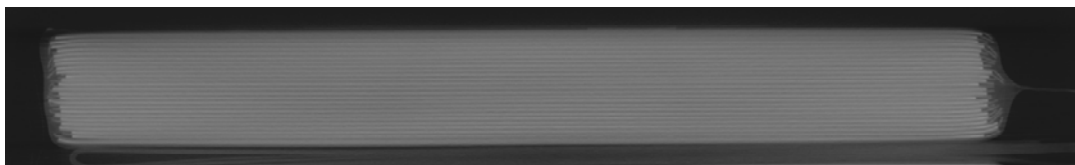


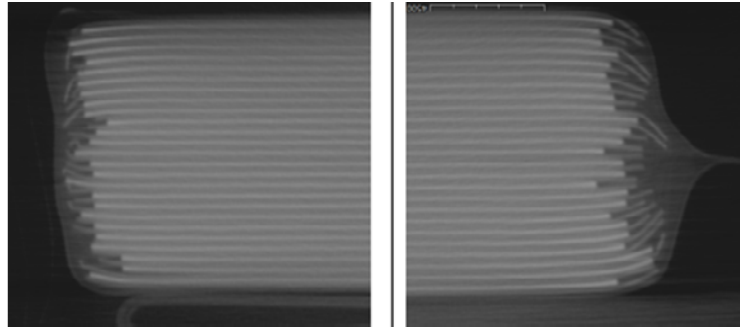
LG Chem's Pouch Cell in the Audi e-tron®:



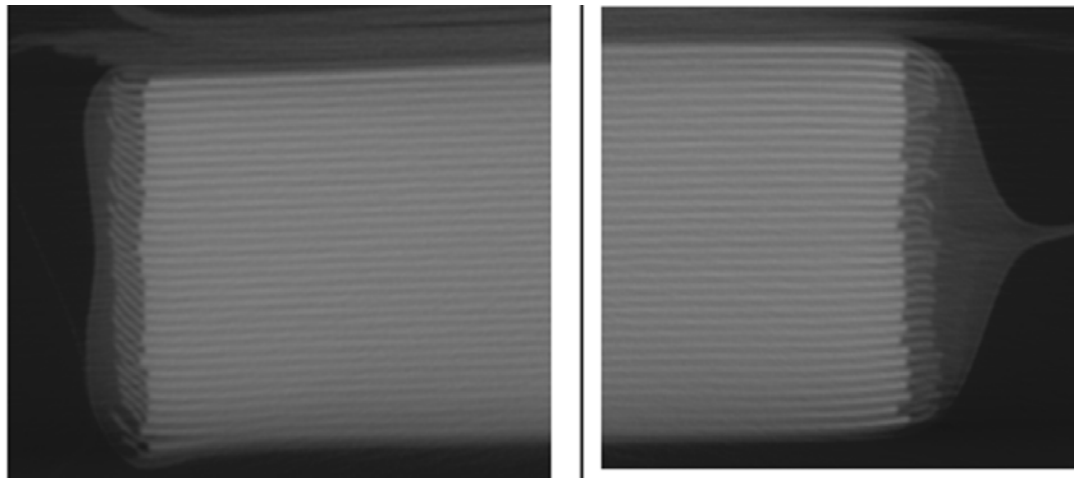
35. As shown below, LG Chem's Pouch Cell also includes an electrode assembly which includes a plurality of electrode bodies laminated with a separator interposed therebetween:

LG Chem's Pouch Cell in the Jaguar I-PACE:



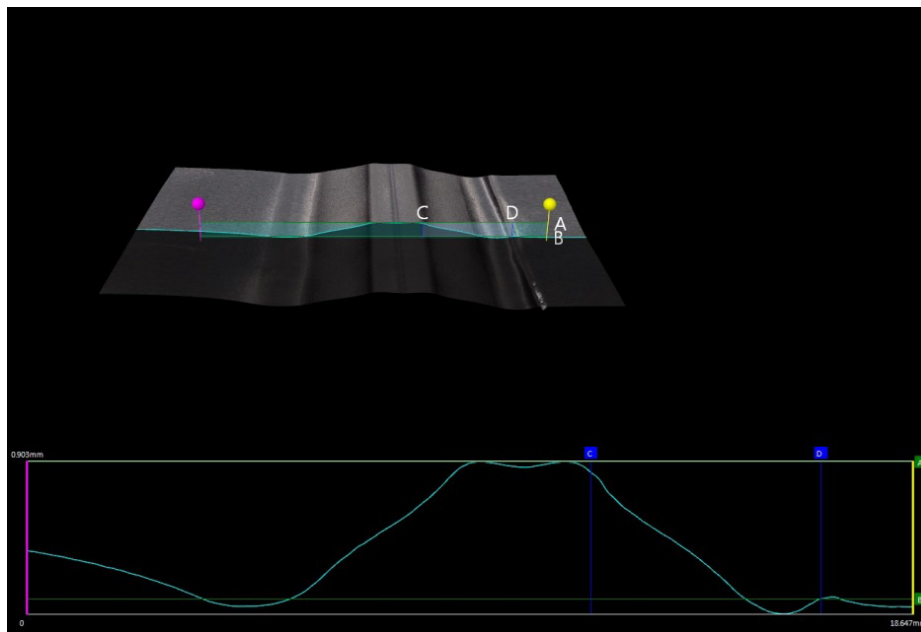


LG Chem's Pouch Cell in the Audi e-tron®:

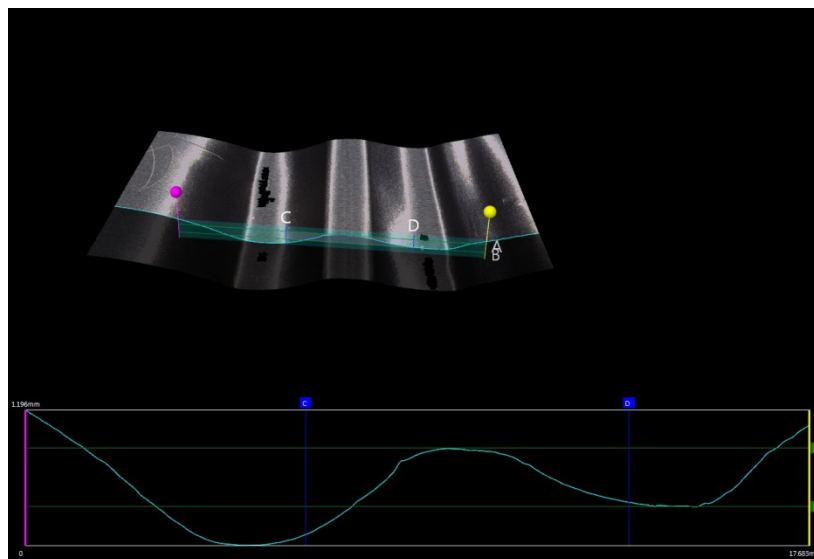


36. As shown below, a pair of forming portions are formed within the pouch film of LG Chem's Pouch Cell to house the electrode assembly:

LG Chem's Pouch Cell in the Jaguar I-PACE:

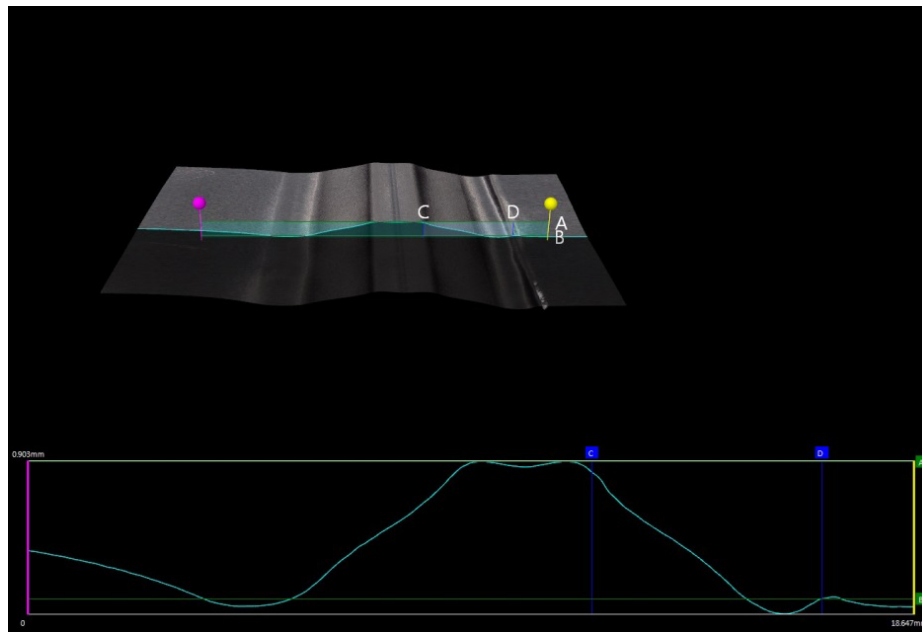


LG Chem's Pouch Cell in the Audi e-tron®:



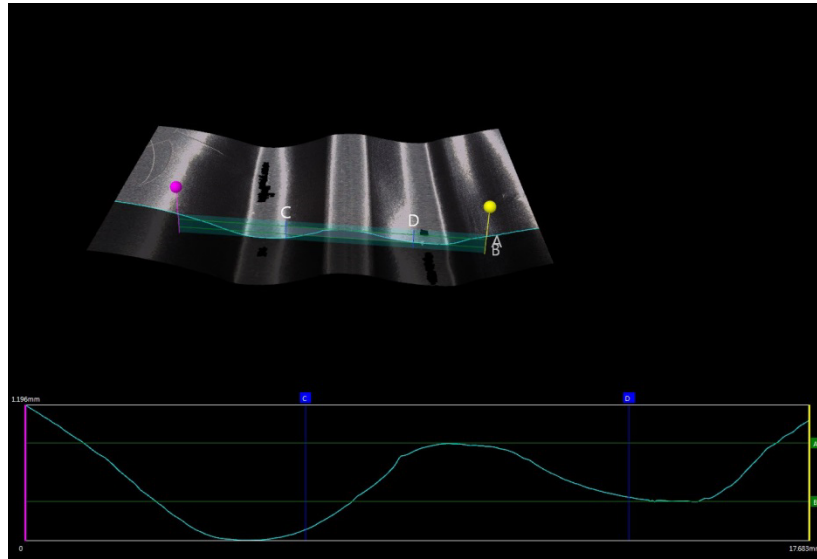
37. As shown below, the electrode assembly in LG Chem's Pouch Cell is packaged by the exterior material in a manner that three sides of the exterior material are sealed and one side is not sealed, and a thickness of the electrode assembly is larger than a sum of each depth of the pair of forming portions:

LG Chem's Pouch Cell in the Jaguar I-PACE:



LG Chem's Pouch Cell in the Audi e-tron®:





38. On information and belief, the batteries shown in paragraphs 34-37 above represent that batteries to be found in the Audi e-tron and Jaguar I-PACE vehicles imported into and on sale in the United States.

PRELIMINARY AND PERMANENT INJUNCTION

39. As a result of Defendants' unlawful activities, SK Innovation has suffered and will continue to suffer irreparable harm for which there is no adequate remedy at law. Defendants' continued infringement of the '994 Patent causes harm to SK Innovation in the form of price erosion, loss of goodwill, damage to reputation, loss of business opportunities, inadequacy of money damages, and direct and indirect competition. Monetary damages are insufficient to compensate SK Innovation for these harms. Accordingly, SK Innovation is entitled to preliminary and permanent injunctive relief.

DAMAGES

40. Under the law, SK Innovation is also entitled to compensation for Defendants' infringement described above. However, the full compensation owed to SK Innovation cannot be ascertained except through discovery and special accounting. To the fullest extent permitted by

law, SK Innovation seeks recovery of at least reasonable royalties. SK Innovation further seeks any other damages to which SK Innovation is entitled under law or in equity.

ATTORNEYS' FEES

41. SK Innovation is entitled to recover reasonable attorneys' fees under applicable law, including 35 U.S.C. § 285 given the exceptional nature of this case.

DEMAND FOR JURY TRIAL

42. SK Innovation hereby demands a trial by jury.

PRAYER FOR RELIEF

WHEREFORE, SK Innovation respectfully requests that this Court enter judgment in its favor that:

- A. declares that LG Chem infringes the '994 Patent;
- B. declares that Defendants' continued infringement of the '994 Patent is willful;
- C. orders an accounting of damages;
- D. awards SK Innovation damages in an amount adequate to compensate SK Innovation for Defendants' infringement of the '994 Patent, but in no event less than a reasonable royalty under 35 U.S.C. § 284, including supplemental damages for any continuing post-verdict infringement up until entry of the final judgment;
- E. awards enhanced damages under 35 U.S.C. § 284;
- F. awards SK Innovation pre-judgment and post-judgment interest to the full extent allowed under the law, as well as its costs;
- G. awards a compulsory future royalty payable on each infringing product sold by Defendants following trial or that is not captured in the damages awarded to SK Innovation;
- H. enters an order finding that this is an exceptional case and awarding SK Innovation its reasonable attorneys' fees under 35 U.S.C. § 285;

I. enters an order that preliminarily and permanently enjoins the Defendants and their officers, employees, agents, servants, attorneys, instrumentalities, and/or those in privity with them, from continuing to infringe the '994 Patent and for all further and proper injunctive relief under 35 U.S.C. § 283; and

J. awards such other relief as the Court may deem appropriate and just under the circumstances.

Dated: September 3, 2019

/s/ Adam W. Poff

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